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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,267	03/31/2004	Jos Bastiaens	08CN8851-6	7478
23413 7590 03/18/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER				
ZEMEL, IRINA SOPHIA				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/815,267

**Applicant(s)**

BASTIAENS ET AL.

**Examiner**

Irina S. Zemel

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6-11,14-18,21-24,27-31,34-38,41-44,52 and 53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-11,14-18,21-24,27-31,34-38,41-44,52,53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 6, 7, 9-11, 14-18, 21-24, 27-28, 30-31, 34-38, 41-42, 44 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and US Patent 5,525,636 to Henn et al., (hereinafter "Henn").

The rejection stands as per reasons of record.

As discussed in the previous office actions, the differences between the invention claimed in the broad claims of the instant application and the disclosure of the Weber reference is that the Weber reference does not expressly disclose the molecular weight of suitable polystyrenes and that the method of making the claimed product disclosed in Weber is different from the claimed method steps insofar as the blowing agent, in the process of Weber, is added via impregnation and the claimed step calls for melt blending the blowing agent. The molecular weight limitation has been addressed on several previous occasions. The examiner is still of the opinion that use of PS with the specified molecular weight would have been obvious for an ordinary artisan as quite common molecular weights for PS used in cellular PS, and also in view of Schmidt. In addition, the disclosure of Hann expressly teaches use of PS of molecular weights specifically corresponding to the claimed molecular weights and

Art Unit: 1796

further expressly teaches benefits of using lower Mw (or Mn) PS in foam applications.

See column 2, lines 47-59.

The process limitations claimed in some of the independent claims, once again it is emphasized that the claimed invention is drawn to a product not the process, even though the claims are drafted in the "product-by-process" format. As such, the patentability of the claimed product lies in the product itself, not the process step limitations. It has been previously discussed in several office actions, that since the claimed product is obtained from substantially the same materials, and, since the degree of impregnation (level of blowing agent in expandable product prior to expansion step) disclosed in Weber and exemplified in illustrative examples are similar, it is reasonable believed that the products claimed are substantially identical to the product of Weber absent showing factual evidence to the contrary. As such, it is believed that they inherently exhibit the claimed properties as the properties of the same or similar product are inherently the same or similar. It is further noted that the sound level is claimed as "about 60", i.e., not claimed with any specified exactitude and, thus, is met by any sound level unless this property change leads to a material change in quality of the product. The comparative example # 3 is noted. However, the example does not provide any probative evidence of unexpected results due to the process steps, as it is not clear whether the composition used in this example is the same as in illustrative example, i.e., it appears that the composition of comparative example 3 lack the flame retardant and it is not even known what level of blowing agent is present in the composition prior to expansion (and what blowing agent it is). Moreover, it is well

Art Unit: 1796

known in the art that the specific steps of blending blowing agents via different processes may result in different , but expectedly different properties of the final products, thus, it is not apparent that the alleged unexpected results are truly unexpected.

Addition of nucleating agent to a foamed composition is notoriously known in the art of foam for controlling of cell size and uniformity of the foam, ad thus, would have been obvious for an ordinary artisan, as for example, supported by disclosure of Henn, expressly listing nucleating agents as known common additives for polystyrene foams. See column 4, line 16.

Thus, the invention as claimed is still considered to have been obvious for an ordinary artisan from the combined teachings of the cited prior art absent showing of unexpected results that can be clearly attributed to the claimed molecular weights of PS.

All other claimed limitations have been discussed in the previous office action and are either expressly or inherently met by the teachings of the cited references.

Claims 8, 29, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and Henn and further in view of Taubitz, '633 (of record).

The rejection stands as per reason of record as previously discussed in several office actions

Claims 1, 3, 6, 7, 9-11, 14-18, 21-24, 27-28, 30-31, 34-38, 41-42, 44 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt, Henn and further in combination with Green.

The rejection stands as per reason of record as previously discussed in several office actions.

Claims 8, 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and Henn and further in view of Taubitz, '633 (of record). and further in combination with Green.

The rejection stands as per reason of record and discussions set forth above with regard to the process steps and specific flame retardants.

### ***Response to Arguments***

Applicant's arguments filed 12-26-2007 have been fully considered but they are not persuasive.

The applicants argue that the examiner contradicts herself in stating that it is reasonable believed that the products disclosed in Weber is reasonably believed to be the same or similar to the claimed product, and, thus, inherently exhibit the same properties, and later stating that it is known that blending blowing agents by different process steps will result in different properties of the product.

The examiner does not believe that those statements are contradictory. Rather they are alternative grounds of rejections for the product claimed in the "product-by-process" claims. It is well established by the case law that 102/103 rejections are

Art Unit: 1796

proper in the case of products claimed via process steps. "[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972)." In the instant case, the examiner provided reasonable basis as to why it is believed that the products disclosed in the Weber reference and the claimed products are substantially similar, i.e., the belief is based on the composition and the amounts of blowing agents. The burden was shifted to the applicants to provide factual evidence to the contrary. As noted in the previous office action, the comparative example 3 does not provide conclusive and probative data that supports patentable differences in the claimed and the disclosed products. As the alternative rejection under 103, the examiner further stated that different mixing steps are known to result in different properties of the final products, thus the differences in the properties of the products obtained by different mixing steps, if such properties may exist, do not appear to be more than expected differences.

Insofar as the applicants argument regarding the limitation "about" and the applicants statement that "it's presence does not negate the limitation that it modifies and this limitation could not be met by "any sound level" as alleged by the Examiner - use of the word "about" merely allows for the imprecision associated with the method of measurement associated with the claimed physical parameter. Measurement of sound levels is not so imprecise as to allow any sound level to meet the limitation of "less than or equal to about 60 decibels", the applicants arguments are simply legally incorrect. The limitation about does NOT limit the claim to the "imprecision associated with the method of measurement associated with the claimed physical parameter". The use of "about" is warning that exactitude is not claimed but rather a contemplated variation. When there is no substantial or material difference in the product, and the difference is colorable, merely, there is in fact literal readability, if proper weight is given to the qualifying word "about" to amounts significantly lower or higher than the numerically claimed limitation. *Kolene Corp. v. Motor City Metal Treating, Inc.* (DC EMich) 163 USPQ 214.

The applicants further argue that the examiner improperly used the inherency doctrine in 103 rejection. The examiner disagrees. The rejection under 103 was due to the obviousness of specific molecular weights and common additives. Other wise, the rejection would have been 102.103 as discussed above. "The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA



1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). The examiner, As discussed above, provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art. Once the examiner met her burden, it was reasonable to conclude that similar products exhibit similar characteristics.

With respect to the rejection over Weber in combination with Schmidt and Henn and further in combination with United States Patent No. 5,000,891 to Green (Claims 8, 29, and 43 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Weber in combination with Schmidt and Henn and further in view of Taubitz and further in combination with Green), the applicants argue that the "Examiner appears to be implying that any polymeric composition can be used in any known method for the production of expanded compositions." Applicants vigorously disagree with this implication, stating that the "selection of process and composition is not obvious as both process and composition affects the final product. Applicants respectfully note that Green supports this position and the totality of Green's teachings must be considered - namely Green's statements in col. 4 that "It should be noted that the selection of the ingredients, as well as their preparation in the formation of the extrusion mixture, appears to be critical" and "the expandable polystyrene pellets of the present invention

Art Unit: 1796

are prepared not only by a unique combination of raw materials, but also by a unique combination of processing conditions and processing steps." The examiner wishes to point out that the implication of her statement in the rejection is that any KNOWN method of incorporating of blowing agent in POLYSTYRENE based polymer during the process for producing expanded POLYSTYRENE (PS) based beads would have been obvious for the KNOWN advantages of incorporating the blowing agent into polystyrene via this specific step. The examiner never implied that *"any polymeric composition can be used in any known method for the production of expanded compositions"*.

Specifically, it is noted that the compositions disclosed in Weber are similar to those involved in invention of Green, i.e., polystyrene based composition, and the only step of the method that is in question in the production of PS based expandable beads is the step of incorporation of the blowing agent into the PS based bead. While the Green reference does state that "It should be noted that the selection of the ingredients, as well as their preparation in the formation of the extrusion mixture, appears to be critical" for the invention of Green (which, by the way, includes a lot more steps than the step of incorporating of the blowing agent), the teachings relied upon by the examiner appear in the background section of the reference as a known fact in the art of obviousness of using various known techniques in the particular step of blowing agent impregnation during the production process of PS based expandable beads. The statement chosen by the applicants has very little to do with this specific teaching relied upon by the examiner, as they are reflective of the entire process, not just one step. In addition, it is not a question whether choosing one or the other step is critical, rather whether it

results in patentable different properties of the final product. As noted above, it is believed that the choice of the blowing agent incorporation step is obvious with reasonable expectation of success as a known step for such procedures, and there is no evidence on the record that indicates any unexpected or patentable different properties of the claimed product.

Thus, in the absence of clear showing that the claimed product is patentably different from the products of the prior art, the rejection stands as per discussion above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemel/  
Primary Examiner, Art Unit 1796

Irina S. Zemel  
Primary Examiner  
Art Unit 1796

ISZ